App. No. 10/065,738
Amendment dated May 6, 2003
Reply to Office action of February 6, 2003

This listing of claims will replace the prior version of the claims in the present application.

**Listing of Claims:**

Claim 1 (currently amended): A Faraday rotator having wavelength selectivity, for selectively rotating only the polarization plane of incident light of given wavelengths, the Faraday rotator comprising:
a magneto-optical ~~part~~ section into which at least one dielectric layer is interlaminated to create at least two magneto-optical parts for rotating the polarization plane of incident light of at least two wavelengths traveling in the direction ~~of~~ in which the magnetic field of said magneto-optical ~~part's magnetic field~~ section is oriented; and
~~a~~ dielectric multi-layer films in which a low refractive-index layer and a high refractive-index layer are laminated in alternation, disposed on either side of said magneto-optical section in an arrangement predetermined to create a resonant structure for localizing within said magneto-optical ~~part~~ section incident light of at least ~~one~~ two wavelengths.

Claim 2 (canceled)

Claim 3 (currently amended): The Faraday rotator set forth in claim 1, wherein said magneto-optical ~~part~~ section is constituted from a gadolinium iron garnet thin film.

Claim 4 (currently amended): The Faraday rotator set forth in claim 1, wherein said dielectric multi-layer film is composed by laminating in alternation an oxide of silicon ~~oxide~~ as a low refractive-index layer, and an oxide of titanium ~~oxide~~ as a high refractive index layer.

Claim 5 (currently amended): The Faraday rotator set forth in claim 1, wherein said magneto-optical ~~part~~ section and said dielectric multi-layer film are formed integrally by a vapor-phase process.

Claim 6 (currently amended): An optical isolator having wavelength selectivity, for selectively blocking only return beams from incident light of given wavelengths, the optical isolator comprising:
a magneto-optical ~~part~~ section into which at least one dielectric layer is interlaminated to create at least two magneto-optical parts for rotating the polarization plane of incident light of at least two wavelengths traveling in the direction ~~of~~ in which the magnetic field of said magneto-optical ~~part's magnetic field~~ section is oriented;
a magnetic part for applying a magnetic field to said magneto-optical ~~part~~ section;
~~a~~ dielectric multi-layer films in which a low refractive-index layer and a high refractive-index layer are laminated in alternation, disposed on either side of said magneto-optical section in an arrangement predetermined to create a resonant structure for localizing within said magneto-optical ~~part~~ section incident light of at least ~~one~~ two wavelengths;
a polarizer for ~~picking out~~ extracting polarized components from incident beams; and
an analyzer utilized in combination with said polarizer.

Claim 7 (canceled):

Claim 8 (currently amended): The optical isolator set forth in claim 6, wherein said magneto-optical ~~part~~ section is constituted from a gadolinium iron garnet thin film.

Claim 9 (canceled)

Claim 10 (currently amended): The optical isolator set forth in claim 6, wherein said dielectric multi-layer films ~~is~~ are composed by laminating in alternation an oxide of silicon ~~oxide~~ as a low refractive-index layer, and an oxide of titanium oxide as a high refractive index layer.

Claim 11 (original): The optical isolator set forth in claim 6, wherein said polarizer and said analyzer are lent a structure having distributed refractive indices, by irradiating with either a particle beam or an energy beam a diamond-like carbon thin film along a bias with respect to the film's thickness direction.

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Claim 12 (original): The optical isolator set forth in claim 11, wherein said particle beam is an ion beam, an electron beam, a proton beam, α-rays, or a neutron beam; and said energy beam is light rays, X-rays or γ-rays.

Claim 13 (currently amended): The optical isolator set forth in claim 6, wherein said magneto-optical ~~part~~ section, said magnetic part, said dielectric multi-layer films, said polarizer, and said analyzer are formed integrally by a vapor-phase process.

Claim 14 (original): A polarizer lent a characteristic structure having distributed refractive indices, by irradiating with either a particle beam or an energy beam a diamond-like carbon thin film along a bias with respect to the film's thickness direction.

Claim 15 (original): The polarizer set forth in claim 14, wherein said particle beam is an ion beam, an electron beam, a proton beam, α-rays, or a neutron beam; and said energy beam is light rays, X-rays or γ-rays.

Claim 16 (original): A diamond-like carbon thin film characterized in being transparent in the light region, and in having an extinction coefficient that is $3 \times 10^{-4}$ or less at optical-communications wavelengths of from 1200 nm to 1700 nm.

Claim 17 (original): An optics component, characterized by utilizing the diamond-like carbon thin film set forth in claim 16.

Claim 18 (original): The optical isolator set forth in claim 11, wherein said diamond-like carbon thin film is transparent in the light region, and has an extinction coefficient that is $3 \times 10^{-4}$ or less at optical-communications wavelengths of from 1200 nm to 1700 nm.

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Claim 19 (original): The optical isolator set forth in claim 12, wherein said diamond-like carbon thin film is transparent in the light region, and has an extinction coefficient that is $3 \times 10^{-4}$ or less at optical-communications wavelengths of from 1200 nm to 1700 nm.

Claim 20 (original): The polarizer set forth in claim 14, wherein said diamond-like carbon thin film is transparent in the light region, and has an extinction coefficient that is $3 \times 10^{-4}$ or less at optical-communications wavelengths of from 1200 nm to 1700 nm.

Claim 21 (original): The polarizer set forth in claim 15, wherein said diamond-like carbon thin film is transparent in the light region, and has an extinction coefficient that is $3 \times 10^{-4}$ or less at optical-communications wavelengths of from 1200 nm to 1700 nm.